

Work Order ID 61928-1

PRELIMINARY ISSUE

Thursday, September 09, 2010 12:55:16 PM

Page 1

Item ID: D4180-4

Accept

Revision ID: PRELIM

Item Name: Gusset

Start Date: 9/9/2010 Start Qty: 2.00

Required Date: 9/16/2010 Req'd Qty: 2.00

Reference:

Approvals:

Process Plan:

Date: 10-9-09

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D4180

PA1

100

0.00



Waterjet

FLOW CNC Waterjet

Memo

1-Cut as per Dwg

Dwg Rev: PA1

Prog Rev: PA1

2-Deburr if necessary

0.00

B10-9-13

4

110

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Quality Control

Memo

0.00

B10-9-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 61928**

Thursday, September 09, 2010 12:55:16 PM

Page 2

Item ID: D4180-4

Accept

Revision ID: PRELIM

Item Name: Gusset

Start Date: 9/9/2010 Start Qty: 2.00

Required Date: 9/16/2010 Req'd Qty: 2.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

QC8- Inspect parts - second check

0.00 - inspected to P91

Qty, only

0.00

8/10/13

(24)

QC

Memo

Quality Control

130

Bend as per dwg.

0.00

8/10/14

(4)

0.00

Brake NC

Memo

Brake NC

140

QC5- Inspect part completeness to step on W/O

0.00 - inspected to P91

Qty, only

0.00

8/10/14

(24)

QC

Memo

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

# Work Order ID 61928

Thursday, September 09, 2010 12:55:16 PM



Page 3

Item ID: D4180-4

Accept



Setup Start



Revision ID: PRELIM

Stop



Item Name: Gusset

Start Date: 9/9/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 9/16/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

150



HandFinish

Hand Finishing

Chemical Conversion Coat per QS1005 4.1

0.00

=> 94 10/09/16

4

4

Memo

0.00

160



QC

Quality Control

QC3- Inspect Part Finish

0.00

BR 10-9-16

4

4

Memo

0.00

170



Packaging

Packaging

Identify as per dwg & Stock Location:

0.00

I Jan CA

BT 10-09-23 (x1)

Memo

0.00



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

# Work Order ID 61928

Thursday, September 09, 2010 12:55:16 PM



Page 4

Item ID: D4180-4

Accept



Setup Start



Revision ID: PRELIM

Stop



Item Name: Gusset

Start Date: 9/9/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 9/16/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

180



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

10/09/29 *[Signature]*

*h1009-23*

POSITIVE RECALL

EFFECTIVE 10.09.09 AUTH *[Signature]*

RELEASED *[Signature]* DATE 10.09.29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Thursday, September 09, 2010 12:55:20 PM

Page 1

Work Order ID: 61928



Parent Item: D4180-4



Parent Item Name: Gusset

Start Date: 9/9/2010

Required Date: 9/16/2010

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:A 10.09.09 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M6061T6S.125

Purchased

No

100

sf

125.2600

0.114

0.24



6061-T6 .125 Sheet

B10-9-13

Location

Loc Qty

Loc Code

MAT21

125.26

113608

96

114352

29.26

114352

(4)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

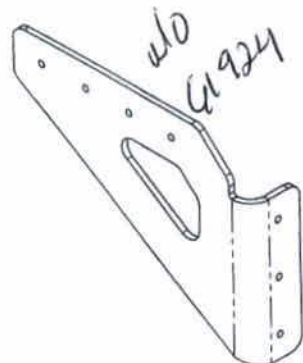
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Rowe / Born / AxF  
 → DOME

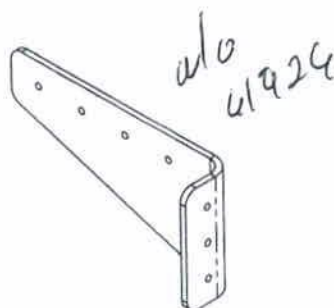
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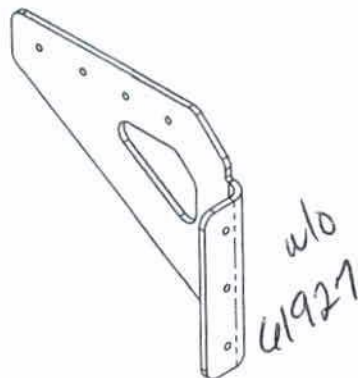
D4180-1 GUSSET



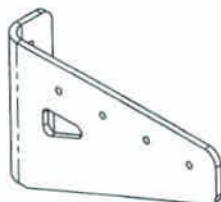
D4180-3 GUSSET



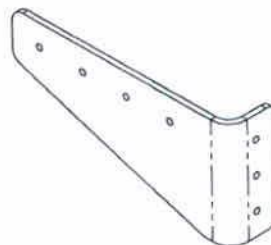
D4180-5 GUSSET



D4180-2 GUSSET



D4180-4 GUSSET



D4180-6 GUSSET

SHOP COPY  
 RETURN TO  
 ENGINEERING  
 UNCONTROLLED COPY  
 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 WORK ORDER  
 NO. 41928

PL 10-9-09

**PRELIMINARY ISSUE**  
 10.09.08

PA1	NEW ISSUE	MB	10.09.03
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.09.03		

<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. <b>D4180</b>	REV. PA1 SHEET 1 OF 4
TITLE <b>POD FRAME GUSSETS</b>	
SCALE NTS	
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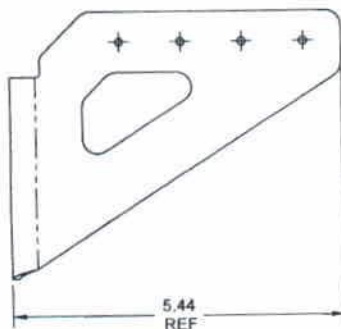
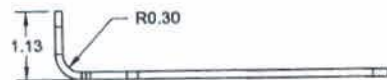
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

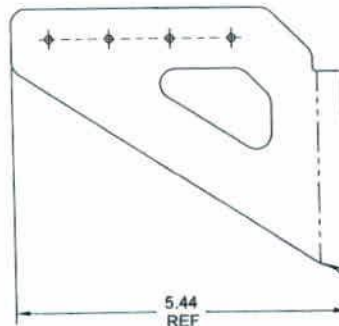
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

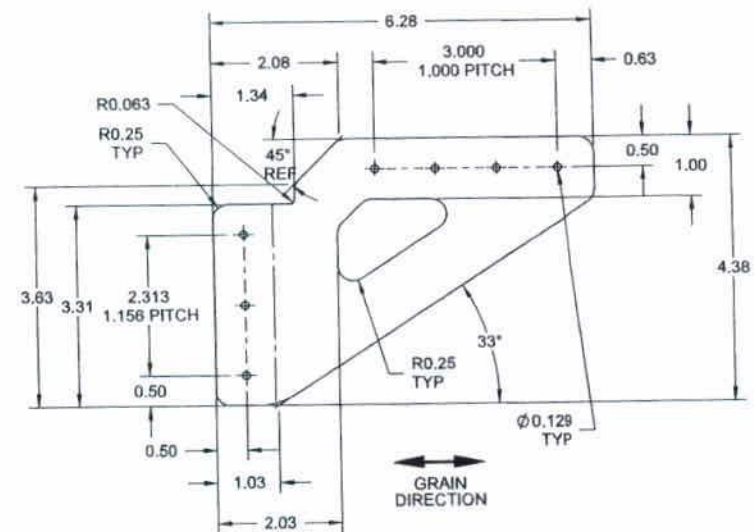
**NOTE:** Date & initial all entries



**D4180-2 GUSSET**  
MAKE FROM D4180-1F



**D4180-1 GUSSET**  
MAKE FROM D4180-1F



**D4180-1F GUSSET FLAT PATTERN**

*wlc 0928*

**PRELIMINARY ISSUE**  
10.09.08

**NOTES:**

- 1) MATERIAL: 6061-T61/T62 ALUMINUM SHEET, 0.125 THICK PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 REF. DART SPEC. M6061T6S.125
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.19 lbs EACH

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. PA1
MFG. APPR.		<b>D4180</b>	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		<b>POD FRAME GUSSETS</b>	NTS
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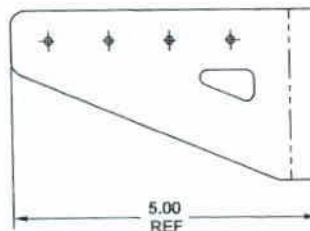
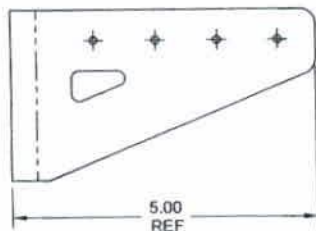
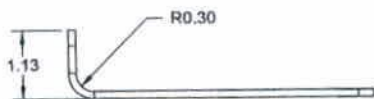
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

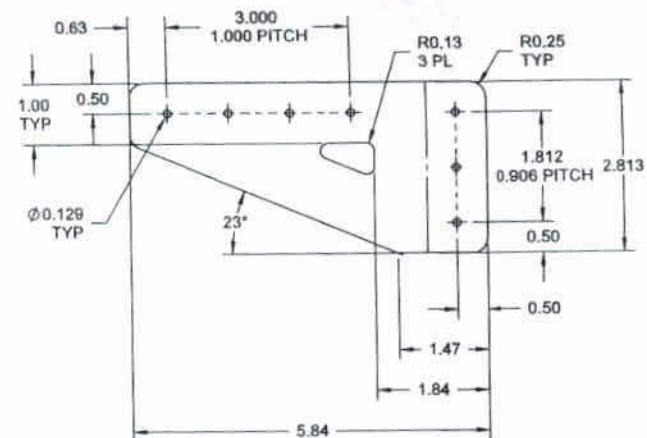
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



**D4180-4 GUSSET**  
MAKE FROM D4180-3F

**D4180-3 GUSSET**  
MAKE FROM D4180-3F



**D4180-3F GUSSET FLAT PATTERN**

*W/O 41928*

**PRELIMINARY ISSUE**  
10.09.08

**NOTES:**

- 1) MATERIAL: 6061-T6/T62 ALUMINUM SHEET, 0.125 THICK PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 REF. DART SPEC. M6061T6S.125
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.15 lbs EACH

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. PAT
MFG. APPR.		<b>D4180</b>	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		<b>POD FRAME GUSSETS</b>	NTS
DATE	10.09.03	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
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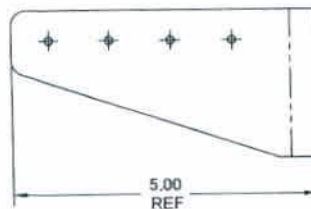
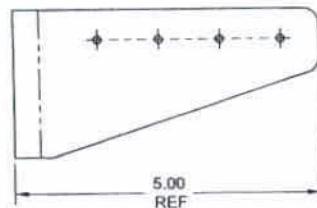
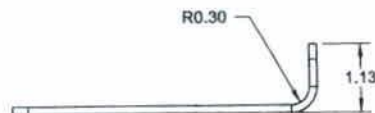
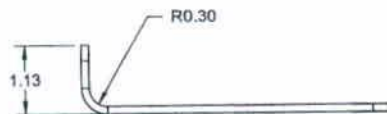
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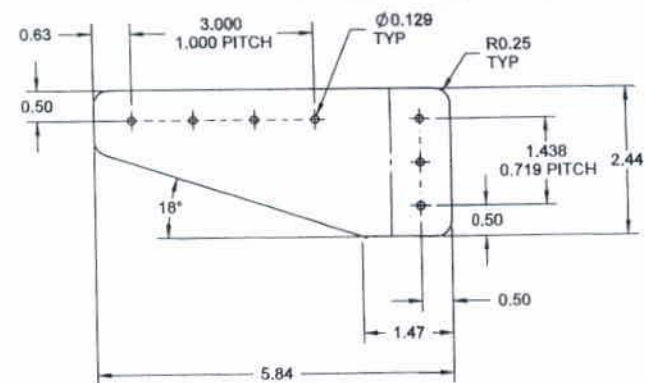
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D4180-5 GUSSET**  
MAKE FROM D4180-5F

**D4180-6 GUSSET**  
MAKE FROM D4180-5F



**D4180-5F GUSSET FLAT PATTERN**

*W/O 01928*

**PRELIMINARY ISSUE**  
10.09.08

**NOTES:**

- 1) MATERIAL: 6061-T61/T62 ALUMINUM SHEET, 0.125 THICK PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 REF. DART SPEC. M6061T6S.125
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.13 lbs

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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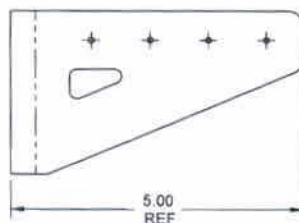
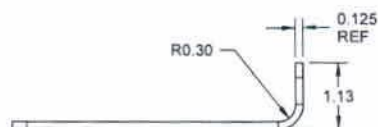
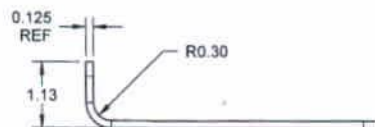
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

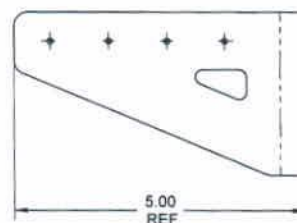
**NOTE:** Date & initial all entries



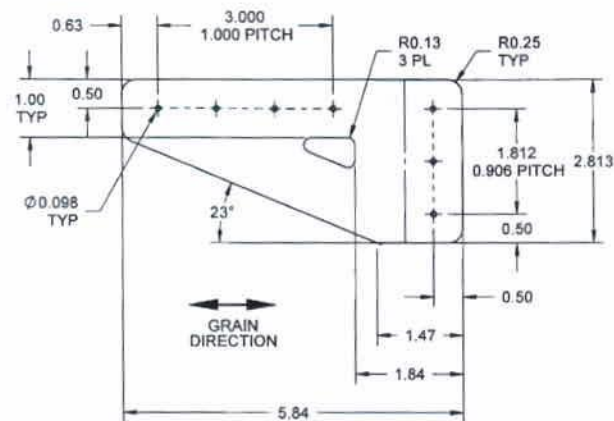




**D4180-4 GUSSET**  
MAKE FROM D4180-3F



**D4180-3 GUSSET**  
MAKE FROM D4180-3F



**D4180-3F GUSSET FLAT PATTERN**

**NOTES:**

- 1) MATERIAL: 6061-T61/T62 ALUMINUM SHEET, 0.125 THICK PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 REF. DART SPEC. M6061T6S.125
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.15 lbs EACH

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4180	SHEET 3 OF 4
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DE APPR.		POD FRAME GUSSETS	NTS
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**RELEASED**  
2010-09-29

61928